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EXAMINER	
BAYARD, EMMANUEL	

ART UNIT	PAPER NUMBER
2631	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/986,502	ARIEL ET AL.
	Examiner	Art Unit
	Emmanuel Bayard	2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 November 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-10, 12-31, 34-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miseki et al U.S. patent No 6,167,375 in view of Yano et al Pub No 20010052099 A1.

As per claim 1, Miseki et al teaches a switch able-output encoder for encoding an input data sequence to form an error protection encoded output sequence, wherein said encoder is switch able between two encoding modes (see figs.15-16 element 240), said modes comprising a relatively complex mode suitable for a relatively high noise

level (see fig.15 element 501 and col.21, lines 43-45) channel and a relatively simple mode suitable for a relatively low noise level channel (see fig.15 element 502 col.21,lines 45-48).

However Miseki et al does not teach wherein said relatively complex mode comprises a turbo-coding mode.

Yano et al teaches a switch able encoder complex mode having a turbo-coding mode (see fi.14 element 11 and page 1 paragraph [0003], [0007-0008], [0014]' [0045]).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Yano into Miseki as to accurately select error free information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claim 2, Miseki and Yano in combination would teach wherein said relatively simple mode comprises a degenerated version of said relatively complex mode as to accurately select error free information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claim 3, Miseki and Yano in combination would teach wherein said relatively simple mode comprises a degenerated turbo coding mode as to accurately select error free information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claim 4, Yano teach wherein said relatively simple mode comprises a convolutional coding mode (see paragraph [0007]). Furthermore implement such teaching into Miseki would have been obvious to one skilled in the art as to accurately

select error free information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claims 5-6, Miseki does teach a multiplexing at least three sub-sequences (see fig. 15 element 250) and Yano does teach interleaving data sequence (see paragraph [0007]). Furthermore combining the teaching of Miseki and Yano to perform wherein, in said turbo coding mode, said output sequence comprises a multiplexed sequence containing at least three sub-sequences, said sub-sequences including a data sequence, a first coded sequence formable by encoding said data sequence, and second coded sequence formable by interleaving said data sequence into an interleaved sequence and encoding said interleaved sequence would have been obvious to one skilled in the art as to accurately select error free information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claim 7, Miseki does teach a first sub-encoder (see fig.16 element 523) to encode said input data sequence into a first coded sequence.

As per claim 8, Miseki and Yano in combination would teach an interleaver, to interleave said input data sequence into interleaved sequence to accurately select error free information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claim 9, Miseki does teach a second sub-encoder (see fig.16 element 524) to encode said input data sequence into a first coded sequence. Furthermore combining the teaching of Miseki and Yano, to encode said interleaved data sequence

into a second coded sequence would have been obvious to one skilled in the art as to accurately select error free information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claim 10, Miseki and Yano in combination would teach a switch connected to said interleaver and to said second sub-encoder, wherein said switch is operable to provide one of said interleaved sequence and said second coded sequence as a switch output sequence, thereby affecting the composition of said encoder output sequence as to accurately select error free information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claim 11, Miseki and Yano in combination would teach an automatic controller, connected to said switch, said automatic controller being operable to monitor predetermined communication parameters in order to determine a required one of said encoder modes, and to control switch operation accordingly as to accurately select error free information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claim 12, Miseki and Yano in combination would teach, wherein in order to provide said turbo coding mode, said switch is settable to send said second coded sequence for output, and in order to provide said degenerated turbo coding mode, said switch is settable to send said interleaved sequence for output as to accurately select error free information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claim 13, Miseki and Yano in combination would teach a multiplexer, connected to said encoder input, to said first sub-encoder, and to said switch, to multiplex said input data sequence, said first encoded sequence, and said switch output sequence into a single multiplexed sequence as to accurately select error free information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claim 14, Miseki and Yano in combination would teach a multiplexed sequence serves as said error-protection encoded output sequence as to accurately select error free information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claims, 15-17 Yano teach wherein said relatively simple mode comprises a convolutional coding mode (see paragraph [0007]). Furthermore implement such teaching into Miseki would have been obvious to one skilled in the art as to accurately select error free information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claim 18, Miseki et al teaches a switch able decoder for decoding a received sequence comprising error-protection encoded data, received from a noisy channel into an estimate of an input sequence, wherein said decoder is switch able between two modes (see fig.21 element 290), said modes comprising a relatively complex decoding mode suitable for a relatively high noise level channel (see fig.21 element 601 and col.25, lines 28-34) and a relatively simple decoding mode suitable for a relatively low noise level channel (see fig.21 element 602 and col.25, lines 33-36) .

However Miseki et al does not teach wherein said relatively complex mode comprises a turbo-decoding mode.

Yano et al teaches a switch able encoder complex mode having a turbo decoding mode (see fig.14 element 12 and abstract and paragraph [0011]).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Yano into Miseki as to accurately eliminate errors in the decoding results as taught by Yano (see paragraph [0011]).

As per claim 19, Yano et al would teach wherein said relatively simple decoding mode comprises a degenerated version of said relatively complex decoding mode as to accurately eliminate errors in the decoding results as taught by Yano (see paragraph [0011]).

As per claim 20, Yano et al would teach wherein said relatively simple decoding mode comprises a degenerated turbo decoding mode as to accurately eliminate errors in the decoding results as taught by Yano (see paragraph [0011]).

As per claim 21, Yano teach wherein said relatively simple mode comprises a convolutional decoding mode (see paragraph [0070]). Furthermore implement such teaching into Miseki would have been obvious to one skilled in the art as

As per claim 22, Yano teach a multiplexed sequence comprising at least three component sub-sequences (see figs.21 and 22).

As per claim 23, Yano et al would teach when said decoder is in degenerated turbo decoding mode, said decoder is operable to process said first sub-sequence as a data sequence, said second sub-sequence as a directly encoded sub-sequence, and

said third sub-sequence as an interleaved data sub-sequence as to accurately eliminate errors in the decoding results as taught by Yano (see paragraph [0011]).

As per claim 24, Yano et al would teach a separator operable to separate the received data sequence into a first, a second, and a third data sub-sequence as an interleaved data sub-sequence as to accurately eliminate errors in the decoding results as taught by Yano (see paragraph [0011]).

As per claim 25, Yano et al would teach a first switch, connected to said sub-decoders, wherein said first switch is operable to connect that decoder output to the first sub-decoder output when said decoder is in relatively complex decoding mode, and to connect the decoder output to the second sub-decoder output when said decoder is in relatively simple decoding mode as to accurately eliminate errors in the decoding results as taught by Yano (see paragraph [0011]).

As per claim 26, Yano et al would teach wherein said first sub- decoder is operable as a turbo decoder, and said second sub-decoder is operable as a degenerated turbo decoder as to accurately eliminate errors in the decoding results as taught by Yano (see paragraph [0011]).

As per claim 27, Yano et al would teach wherein said degenerated turbo decoder comprises a de-interleaver for de-interleaving said third sub-sequence to form a de-interleaved sub-sequence as to accurately eliminate errors in the decoding results as taught by Yano (see paragraph [0011]).

As per claim 28, Yano et al would teach wherein said degenerated turbo decoder further comprises a convolutional code decoder fox decoding

said first sub-sequence, said second sub-sequence, and said de-interleaved sub-sequence into said estimate of an input sequence as to accurately eliminate errors in the decoding results as taught by Yano (see paragraph [0011]).

As per claim 29, Yano et al would teach, wherein said convolutional code decoder comprises a hard-decision trellis decoder as to accurately eliminate errors in the decoding results as taught by Yano (see paragraph [0011]).

As per claim 30, Yano et al would teach wherein said convolutional code decoder comprises a soft-decision trellis decoder as to accurately eliminate errors in the decoding results as taught by Yano (see paragraph [0011]).

As per claim 31, Yano et al would teach a second switch, connected to said separator, wherein when said decoder is in relatively complex decoding mode said second switch is settable to connect said separator output sub-sequences to inputs of said first sub-decoder, and when said decoder is in relatively simple decoding mode said second switch is settable to connect said separator outputs to inputs of said second sub-decoder as to accurately eliminate errors in the decoding results as taught by Yano (see paragraph [0011]).

As per claim 34, Miseki et al a switch able data encoder-decoder system, comprising a switch able- output encoder for encoding an input sequence to form an error protection encoded output sequence and a switch able decoder, for decoding a received sequence into an estimate of said input sequence, wherein said encoder and said decoder are synchronously switch able between two modes of operation (see figs. 1 and 4), said modes comprising a relatively complex mode suitable for a relatively high

noise level (see fig.15 element 501 and col.21, lines 43-45) channel and a relatively simple mode suitable for a relatively low noise level channel (see fig.15 element 502 col.21,lines 45-48).

However Miseki et al does not teach wherein said relatively complex mode comprises a turbo-coding/decoding mode.

Yano et al teaches a switch able encoder complex mode having a turbo-coding/decoding mode (see fig.14 elements 11 abstract and paragraph [0011] and page 1 paragraph [0003], [0007-0008], [0014], [0045]).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Yano into Miseki as to accurately select error free information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claim 35, Yano et al would teach wherein said relatively simple mode comprises a degenerated version of said relatively complex mode as to accurately select error free information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claim 36, Yano et al would teach wherein said relatively simple mode comprises a degenerated turbo coding/decoding mode as to accurately select error free information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claim 37, Yano et al would teach wherein said relatively simple mode comprises a convolutional coding/decoding mode as to accurately select error free

information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claims 38-40, Yano et al would teach wherein when said encoder-decoder system is in turbo coding/decoding mode paid encoder is operable to output a multiplexed signal comprising three sub- sequences, said sub-sequences comprising said input data sequence, a first coded sequence, and an interleaved and encoded data sequence as to accurately select error free information blocks on a per information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claim 41, Yano et al teaches an interleaver to interleave said input signal into an interleaved data Sequence (see paragraph [0007]). Miseki teaches a first sub-encoder, to encode said input sequence into a first coded Sequence (see fig.16 element 523), a second sub-encoder (see fig.16 element 524). Furthermore combining the teaching of Miseki and Yano to perform wherein connected to said interleaver, to encode said input sequence into a second coded sequence; a switch, connected to said interleaver and to said second sub-encoder, settable to provide said second coded sequence as a switch output sequence when said system is in turbo coding/decoding mode, and to provide said interleaved data sequence as a switch output sequence wherein said system is in degenerated turbo coding/decoding mode; and, a multiplexer, connected to said encoder input, said first sub-encoder, and said switch, to multiplex said data sequence, said first coded sequence, and said switch output sequence into an output sequence as to accurately select error free information blocks on a per

information block basis from the information blocks as taught by Yano (see paragraph [0088]).

As per claim 42, Miseki et al teaches a separator (see figs.12-13, 23 elements 420, 620), operable to separate the received data sequence into a first, a second, and a third data sub-sequence; a first sub-decoder, connected to said separator, operable to decode said sub-sequences when said encoder-decoder system is in relatively complex mode; a second sub-decoder, connected to said separator, operable to decode said sub-sequences when said encoder-decoder system is in relatively simple mode (see figs.12-13 elements 421-423); a first switch (see fig.21), connected to said sub-decoders, to connect the decoder output to the first sub-decoder output when said decoder is in relatively complex decoding mode, and to connect the decoder output to the second sub-decoder output when said decoder is in relatively simple decoding mode; and, a second switch (see fig.21), connected between said separator and said sub- decoders, settable to route said sub-sequences to either of the first and second sub-decoders in accordance with a current mode of operation as to accurately eliminate errors in the decoding results as taught by Yano (see paragraph [0011]).

As per claim 44, Yano et al teaches a switch able encoder complex mode having a turbo decoding mode (see fig.14 element 12 and abstract and paragraph [0011]).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Yano into Miseki as to accurately eliminate errors in the decoding results as taught by Yano (see paragraph [0011]).

As per claim 45, Yano teaches a de-interleaver (see paragraph [0014]). Furthermore implementing such teaching into Miseki to connect to said separator, for de-interleaving said third sub-sequence to form a de-interleaved sub-sequence; and a convolutional code decoder, connected to said separator and to said de-interleaver, for decoding said first sub-sequence, said second sub- sequence, and said de-interleaved sub-sequence into said estimate of an input sequence would have been obvious to one skilled in the art as to accurately eliminate errors in the decoding results as taught by Yano (see paragraph [0011]).

4. Claims 47-50, 54-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shin U.S. patent No 6,772,391 B1 in view of Miseki et al U.S. patent No 6,167,375.

As per claim 47, Shin teaches an encoded output sequence, comprising: A method for encoding an input data sequence into an error protection receiving an input data sequence; receiving an input data sequence (see fig.6 element 27 and col.4, lines 35-36); interleaving said input sequence to form an interleaved data sequence (see fig.6 element 19 and col.4, lines 23-34); encoding said input sequence to form a first encoded sequence according to a first coding rule (see fig.6 element 21 and col.4, lines 28-37 and col.5, lines 34-38); encoding said interleaved sequence to form a second encoded sequence according to a second coding rule (see fig.6 element 23 and col.4, lines 25-37 and col.5, lines 34-38); switching is the same as the claimed (selecting) (see fig.6 element 43 or 45 and col.5, lines 50-59) either one of said interleaved and said second encoded sequence.

However Shin does not teach multiplexing said input sequence, said first encoded sequence, and said selected sequence to form said error protection encoded output Sequence.

Miseki et al teaches multiplexing said input sequence, said first encoded sequence, and said selected sequence to form said error protection encoded output Sequence (see abstract and fig.1 element 150 and figs.15-16 element 250 and col.21, lines 23-25 and col.22, lines 25-27).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Miseki into Shin as to perform an appropriate process on the internal state of the buffer and filter in the noise encoder as taught by Miseki (see col.21, lines 50-55).

As per claim 48, Shin and Miseki in combination would teach wherein selection is made based on current values of predetermined communication parameters as to accurately select error free information blocks on a per information block basis from the encoding blocks.

As per claim 49, Shin and Miseki in combination would teach wherein said first encoding rule comprises convolutional coding as to accurately select error free information blocks on a per information block basis from the information blocks.

As per claim 50, Shin and Miseki in combination would teach wherein said second encoding rule comprises convolutional coding as to accurately select error free information blocks on a per information block basis from the information blocks.

As per claim 54, Shin teaches de-interleaving (see fig.6 element 5 and col.1, lines 39 and col.2, lines 65-67). Furthermore implementing such teaching into Miseki to

deinerleave said third sub-sequence into a deinterleaved sub- sequence and, decoding said first, said second, and said de-interleaved sub-sequences into said estimate of an input sequence using a convolutional code decoder would have been obvious to one skilled in the art as to accurately eliminate errors in the decoding results.

As per claim 55, Shin and Miseki in combination would teach a method for decoding a received sequence comprising error-protection encoded data received from a noisy channel into an estimate of an input sequence, wherein said convolutional code decoder comprises a hard-decision trellis decoder as to accurately eliminate errors in the decoding results.

As per claim 56, Shin and Miseki in combination would teach method for decoding a received sequence comprising error-protection encoded data received from a noisy channel into an estimate of ala input sequence, wherein said convolutional code decoder comprises a soft-decision trellis decoder as to accurately eliminate errors in the decoding results.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 51-53 are rejected under 35 U.S.C. 102(e) as being anticipated by Miseki et al U.S. patent no 6,167,375.

As per claim 51, Miseki teaches a method for decoding a received sequence comprising error-protection encoded data received from a noisy channel into an estimate of an input sequence, comprising: receiving said sequence from said noisy channel (see fig.21); separating said received sequence into a first, a second, and a third data sub-sequence (see fig.22 element 601); selecting either one of a first sub-decoder and a second sub-decoder (see fig.21 and col.24, line 25-235); and, decoding said sub-sequences into said estimate of an input sequence using the selected sub-decoder (see figs. 21-22 and col.26, lines 12-25).

As per claim 52, Miseki inherently teaches an error-protection encoded data received from a noisy channel into an estimate of an input sequence according wherein selection is made based on current values of predetermined communication parameters.

As per claim 53, Miseki inherently teaches error-protection encoded data received from a noisy channel into an estimate of an input sequence wherein said first sub-decoder comprises a turbo code decoder.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 11, 32-33, 43 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miseki et al U.S. patent No 6,167,375 in view of Yano et al Pub No 20010052099 A1 and in further view of Mori et al U.S. patent No 6,381,254 B1.

As per claims 11, 32-33, 43 and 46 Miseki and Yano teach in combination all the features of the claimed invention except an automatic controller, connected to said second switch, said automatic controller being operable to monitor predetermined communication parameters in order to determine a required one of said decoder mode, and to control switch operation accordingly.

Mori teaches a control section is the same as the claimed (automatic controller), connected to said first and second switches, said control section (automatic controller) being operable to monitor predetermined communication parameters in order to determine a required one of said decoder mode, and to control switch operation accordingly (see figs 20-24 elements 1004, 1041 and col.26, lines 17-67 and col.27, lines 1-67).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Mori into Miseki and Yano as to determine whether or not each of the moving image signals input into the moving image switch section should be output and, if output, to which encoding section the moving image signal should be output as taught by Mori (see col.26, lines 28-50).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Taniguchi et al U.S. Pub No 20010041976 A1 teaches a signal processing apparatus and mobile radio communication.

Yang U.S. patent No 5,889,791 teaches a system, device and method of FEC coding.

Hofmann U.S. patent No 6,012,024 teaches a method and apparatus in coding digital information.

Wideman U.S. patent No 6,418,147 B1 teaches a multiple vocoder mobile satellite telephone system.

Taniguchi et al U.S. patent No 5,115,469 teaches a speech encoding/decoding.

Kodama et al U.S. patent No 5,416,787 teaches a method and apparatus for encoding and decoding.

Rabipour et al U.S. patent No 6,324,515 B1 teaches a method and apparatus for asymmetric communication of compressed speech.

Iseda et al U.S. patent No teaches a voice coding/decoding system.

Matsuo U.S. patent No 6,887,265 B1 teaches an ATM wan audio communication.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is 571 272 3016. The examiner can normally be reached on Monday-Friday (7:Am-4:30PM) Alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed Ghayour can be reached on 571 272 3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Emmanuel Bayard
Primary Examiner
Art Unit 2631

1/12/05

EMMANUEL BAYARD
PRIMARY EXAMINER